Smallpox Bibliography
February 2005

1: Am J Bioeth. 2003 Autumn;3(4):W22-W25.

Public mistrust: the unrecognized risk of the CDC Smallpox Vaccination Program.

Sankar P, Schairer C, Coffin S.

University of Pennsylvania.

Phase 1 of the CDC's Smallpox Vaccination Program has foundered because of a lack of volunteers. However, despite the enrollment of fewer than 10% of the projected number of hospital employees in Phase 1, and recent recommendations of two advisory groups, CDC and DHHS officials recently announced plans to expand this vaccination program. During Phase 2 of the Smallpox Vaccination Program, an additional 10 million health care and emergency workers are scheduled to receive vaccination. This paper reviews reasons why state health departments and hospitals rejected participation in Phase 1. It urges the federal government to take account of these problems before proceeding to Phase 2 and argues that the flaws in this program not only threaten bioterrorism preparedness efforts but, more importantly, might endanger trust in public health initiatives.

PMID: 14744316 [PubMed - indexed for MEDLINE]

2: Am J Obstet Gynecol. 2004 Dec;191(6):1863-7.

Pregnancy discovered after smallpox vaccination: Is vaccinia immune globulin appropriate?

Napolitano PG, Ryan MA, Grabenstein JD.

Department OBGYN, Division of Maternal-Fetal Medicine, Madigan Army Medical Center, Tacoma, WA 98431, USA. Peter.Napolitano@nw.amedd.army.mil

Smallpox vaccination just before conception or during pregnancy can result, in rare instances, in fetal vaccinia from viral infection of the fetus. Approximately 50 cases have been documented, despite literally billions of people having been vaccinated. This live viral vaccine has a wider array of rare but serious medical side effects (eg, eczema vaccinatum, progressive vaccinia, encephalitis, myopericarditis) compared with other vaccines that are given

currently to the public. In response to recent world events, the Centers for Disease Control and Prevention and the United States Department of Defense established a preoutbreak smallpox vaccination program. Because no actual outbreak has yet occurred, some investigators have proposed prophylactic treatment with vaccinia immune globulin for pregnancies that are exposed to smallpox vaccine to prevent fetal vaccinia. We review the existing medical literature to access the risks of fetal vaccinia in these pregnancies and the controversy regarding the prophylactic use of vaccinia immune globulin.

Publication Types:
Review
Review, Tutorial

PMID: 15592266 [PubMed - indexed for MEDLINE]

3: AORN J. 2004 Oct;80(4):681-5, 688-9.

Treating patients with smallpox in the operating room.

Beasley A, Kenenally S, Mickel N, Korowicki K, McCann S, Arundell J, Simmons W, Williams H.

Walter Reed Army Medical Center, Washington, DC, USA.

Recent events around the world have emphasized the need for health care facilities to prepare to deal with biological threats, including smallpox. At Walter Reed Army Medical Center, Washington, DC, administrators recognized the need for a policy on handling patients with smallpox in the OR and asked a group of students to create a template policy for care of patients with smallpox in need of surgery. This article provides a brief history of smallpox, concerns surrounding smallpox today, and smallpox characteristics with which perioperative personnel should be familiar, as well as a guideline for treating patients in the OR who have smallpox.

Publication Types:
Historical Article

PMID: 15526701 [PubMed - indexed for MEDLINE]

4: Biosecur Bioterror. 2004;2(3):157-63.

Diagnosing smallpox: would you know it if you saw it?

Woods R, McCarthy T, Barry MA, Mahon B.

Data Coordinating Center, Boston University School of Public Health, MA 02118, USA.

The intentional release of anthrax in the United States in 2001 and other recent acts of terrorism have highlighted the possibility of intentional release of smallpox by terrorists. Little is known about physicians' ability to diagnose

smallpox, especially in the critical first days, when the potential for rapid control of transmission is greatest. During December 2002 and January 2003, primary care and emergency physicians at a large urban academic medical center were surveyed regarding the diagnosis and management of patients who present with vesicular rash illness. In addition to demographic and training-related questions, the questionnaire included items about perceived comfort in diagnosing and evaluating rashes, knowledge of the key differential diagnostic characteristics of chickenpox and smallpox, and the diagnostic interpretation of color photographs of patients with smallpox or chickenpox. Responses were summarized as a perceived comfort score, a differential diagnosis score, and a picture score. Of 266 eligible physicians, 178 (67%) responded. Of these, 95% thought clinicians need more education about bioterrorism; only 17% reported comfort in diagnosing smallpox. Although most physicians recognized pictures of smallpox and chickenpox, only 36% correctly answered 3 of 4 questions regarding differential diagnosis, an important aspect of identifying cases early. Those who were comfortable diagnosing rash illnesses had higher differential diagnosis scores. Strategies for bioterrorism-related training could take advantage of physicians' awareness of their own knowledge deficits.

PMID: 15588053 [PubMed - indexed for MEDLINE]

5: J Am Coll Cardiol. 2005 Jan 4;45(1):160; author reply 160-1.

Comment on:
J Am Coll Cardiol. 2004 May 5;43(9):1503-10.

Cautious interpretation of data regarding myopericarditis associated with smallpox vaccination.

Gami AS, Murphy J, Cooper LT Jr.

Publication Types:
Comment
Letter

PMID: 15629393 [PubMed - indexed for MEDLINE]

6: J Clin Microbiol. 2004 Nov;42(11):5409-11.

Laboratory-confirmed transmission of vaccinia virus infection through sexual contact with a military vaccinee.

Egan C, Kelly CD, Rush-Wilson K, Davis SW, Samsonoff WA, Pfeiffer H, Miller J, Taylor J, Cirino NM.

Wadsworth Center, New York State Department of Health, Albany, NY 12208, USA.

A laboratory-confirmed, inadvertent transmission of vaccinia virus from an unusual source highlights the importance of epidemiologic tracing, proper biosafety practices in the clinical diagnostic laboratories, and educating clinicians and laboratorians to potential bioterrorism-initiated outbreaks as

well as look-alike disease discrimination.

Publication Types:
Case Reports

PMID: 15528758 [PubMed - indexed for MEDLINE]

7: J N Y State Nurses Assoc. 2004 Spring-Summer;35(1):4-7.

Public health nurses' views on voluntary smallpox vaccination.

Kuula A, Bell SE, Allen R.

Macomb County Health Department, Macomb, Michigan, USA.

Between January and June 2003, voluntary smallpox vaccination of healthcare workers and mandatory vaccination of military personnel was an important public health topic. This paper discusses the attitudes of nurses from two county public health departments in an upper-Midwestern state who were asked to volunteer to take the smallpox vaccine and to prepare to assist in the operation of possible mass immunization clinics. The responses of these healthcare professionals are compared to those of physicians and the general public. The public health nurses in this sample were less likely to view smallpox as a potential biological weapon than was the general public or other healthcare workers studied previously.

PMID: 15587543 [PubMed - indexed for MEDLINE]

8: JAMA. 2005 Feb 9;293(6):677-8.

Immune status in a primary smallpox vaccinee who failed to develop an immunization site reaction.

Kelso JM, Kuhn KM, Newman FK, Kennedy JS, Frey SE.

Publication Types:
Case Reports
Letter

PMID: 15701908 [PubMed - indexed for MEDLINE]

9: Lancet Infect Dis. 2005 Jan;5(1):10.

Live smallpox experiments may go ahead.

Senior K.

Publication Types:
News

PMID: 15645545 [PubMed - indexed for MEDLINE]

10: Mil Med. 2004 Nov;169(11):866-7.

Case report: A presumptive case of vaccinia myocarditis.

Guerdan BR, Shumway GJ.

171st Medical Group, Pittsburgh International Airport, Pittsburgh, PA, USA.

A 26-year-old male medical technician who received the smallpox (vaccinia) vaccination developed a clinical case of myocarditis 11 days after vaccination. The medical literature has little information on this complication of vaccination. The individual was admitted for evaluation and pain control. At discharge, he appeared to have had no long-term effects and has returned to duty.

Publication Types:
Case Reports

PMID: 15605931 [PubMed - indexed for MEDLINE]

11: Neurologist. 2004 Sep;10(5):265-74.

Anticipating smallpox and monkeypox outbreaks: complications of the smallpox vaccine.

Abrahams BC, Kaufman DM.

Department of Neurology, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, New York 10467, USA. brianabrahams@yahoo.com

BACKGROUND: The recent outbreak in the Midwest of monkeypox, as well as the continued fears of a terrorist-induced epidemic of smallpox, prompted the authors' review of the literature regarding past and current experiences with smallpox vaccination. The smallpox vaccine, which is highly effective in preventing the spread of both these orthopoxvirus infectious illnesses, might be administered to numerous health care workers and, in the event of a smallpox attack, millions of other citizens. However, vaccinees would be at risk for several vaccine-related neurologic complications. REVIEW SUMMARY: According to prior reports, neurologic complications have occurred in 2.5 per million US individuals, with the most common being postvaccinal encephalomyelitis (PVEM). In older children and adults, PVEM causes stupor and coma, seizures, paraparesis, and other neurologic and mental abnormalities, and, in 16% of cases, permanent neurologic sequelae. The overall mortality rate of neurologic complications is approximately 1.5 per million vaccinees. Risk factors for PVEM were age younger than 1 year and no previous smallpox vaccination, but not a prior episode of PVEM or other preexisting neurologic illnesses. Neither the current smallpox vaccination campaigns in Israel nor the one in the United States has had comparable complications, but the US campaign has been associated

with myocarditis and myopericarditis. CONCLUSION: Although the potential neurologic complications of the smallpox vaccine must be weighed against the threat of monkeypox and smallpox, current experience with vaccination suggests it carries a very low risk of neurologic complications and does not lead to exacerbations of chronic neurologic illnesses.

Publication Types:
Review
Review, Tutorial

PMID: 15335444 [PubMed - indexed for MEDLINE]

12: Trends Biotechnol. 2004 Aug;22(8):423-7.

Design and development of oral drugs for the prophylaxis and treatment of smallpox infection.

Painter GR, Hostetler KY.

Chimerix Incorporated, 11149 North Torrey Pines Road, La Jolla, CA 92037, USA.

Smallpox was eradicated by the World Health Organization (WHO) vaccination campaign in the 1970s and the variola virus was restricted to repositories in the United States and Russia. Recently, however, concerns have arisen about the possible existence of variola outside these sites and the potential for using the virus as a weapon of bioterror. The world population now has little residual immunity to smallpox and supplies of the smallpox vaccine are being reconstituted. Large numbers of individuals with various skin diseases or immunosuppression owing to AIDS or organ transplantation medications, or who are pregnant or have heart disease might not be ideal candidates for vaccination with the current live vaccines. It would be useful to have an orally active drug that could be self-administered in case of an outbreak of smallpox.

PMID: 15283988 [PubMed - indexed for MEDLINE]